

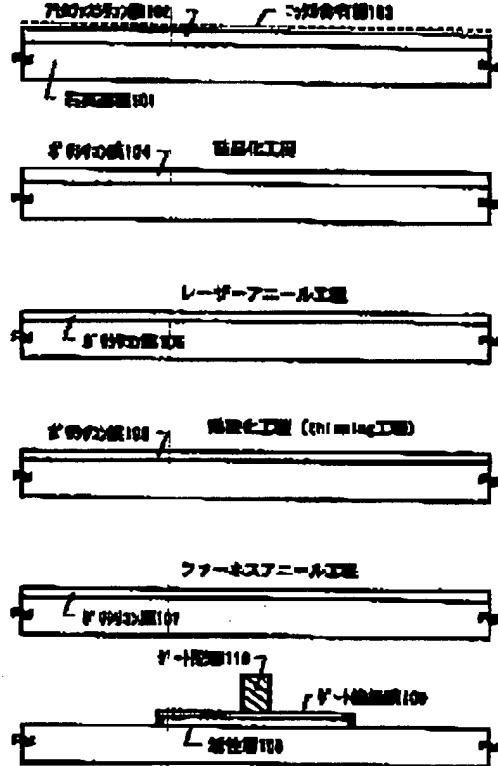
SEMICONDUCTOR DEVICE AND ITS MANUFACTURE

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Abstract of JP2000114526

PROBLEM TO BE SOLVED: To manufacture a thin-film transistor excellent in characteristic and make a semiconductor to have high performance by annealing a semiconductor film containing crystal by laser and oxidizing the semiconductor film by furnace annealing so as to reduce the thickness thereof.
SOLUTION: First, an amorphous silicon film 102 and a nickel containing layer 103 are formed on a quartz substrate 101, it is heated at 550-650 deg.C for 4 to 24 hours to form a polysilicon film 104, and it is annealed by excimer laser light and further annealed at 1000 deg.C for 30 minutes in an oxidizing atmosphere in the furnace so as to form a polysilicon film 106 with a small film thickness. Next, a polysilicon film 107 with high crystallinity which is formed by furnace annealing at 1000 deg.C for two hours is patterned to form an active layer 108. Therefore, a circuit can be fabricated by such a TFT that has a semiconductor film as an active layer that has a crystallinity substantially equivalent to that of a single crystal, so that a high-performance semiconductor device can be realized.



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